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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,114	05/06/2004	Heinfried Hoffmann	P04,0153	7271

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SCHIFF HARDIN, LLP
PATENT DEPARTMENT
6600 SEARS TOWER
CHICAGO, IL 60606-6473

EXAMINER	
BARAN, MARY C	
ART UNIT	**PAPER NUMBER**
2857	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/840,114	HOFFMANN ET AL.
	Examiner	**Art Unit**
	Mary C. Baran	2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9,10,13-19 and 22-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9,10,13-19,22,23 and 25* is/are rejected.

7)☒ Claim(s) *24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The action is responsive to the Amendment filed on 26 June 2007. Claims 1-7, 9, 10 and 13-19 and 22-25 are pending. Claims 1 and 9 are amended. Claims 8, 11, 12, 20 and 21 are cancelled. Claims 22-25 are new.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7, 9, 10 and 15-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Snowbarger et al. (U.S. Patent No. 7,079,021) (hereinafter Snowbarger).

Referring to claim 1, Snowbarger teaches a method to test operating safety of a process control device (see Snowbarger, column 3 lines 6-14) designed to close or open a pipe of a process system in the event of an incident (see Snowbarger, column 3 lines 25-35) comprising

a process valve (see Snowbarger, Figure 1 "valve 12") and a pneumatic actuator for driving the valve (see Snowbarger, column 4 lines 1-6),

a position controller in a safety circuit (see Snowbarger, Figure 1, "Emergency Shutdown Controller 44"), the position controller being connected to a measurement device (see Snowbarger, Figure 1 "Emergency Shutdown Controller 44" and "sensors 15") (n.b. the measurement device (i.e. sensors 15) are connected to the position controller (i.e. Emergency Shutdown Controller) via the DVC 14),

the pneumatic actuator (see Snowbarger, Figure 1 "valve actuator 17") having a pneumatic input that is directly coupled to a pneumatic output (see Snowbarger, Figure 1 "pneumatic line 19") of a solenoid valve (see Snowbarger, Figure 1 "solenoid valve 16") that controls the pneumatic actuator (see Snowbarger, column 4 lines 6-11), the solenoid valve having an electrical input that is connected to the position controller (see Snowbarger, Figure 1 "output line 42") for exchange of control signals (see Snowbarger, column 4 lines 14-17),

such that the pneumatic actuator can be operated by way of the control unit to move process valve and the process valve can be moved from an initial condition to a final condition in the event of an incident by a control of the actuator by the solenoid valve (see Snowbarger, column 4 lines 1-11), and a test cycle for the process control device (see Snowbarger, column 3 lines 25-43 and column 4 lines 17-27) (i.e. the test cycle for the process control device includes the redundancy for the emergency shutdown test system) comprising:

generating a control signal for partial movement (i.e. an actual emergency) of the process valve aided by the position controller (see Snowbarger, column 4 lines 1-6);

transferring the control signal from the position controller to the solenoid valve via the electrical input of the solenoid valve (see Snowbarger, column 4 lines 14-17);

directly controlling the pneumatic actuator via its pneumatic input with the solenoid valve, depending on the control signal provided at the electrical input of the solenoid valve to operate the pneumatic actuator for the partial movement of the process value from the initial condition (see Snowbarger, column 4 lines 1-11);

detecting, via said measurement device, measurement signals that indicate the partial movement of the process valve from the initial condition (see Snowbarger, column 3 lines 36-43 and Figure 1 "sensors 15"); and

returning the control element to the initial condition (see Snowbarger, column 3 lines 39-40).

Referring to claim 2, Snowbarger teaches detecting time resolved path signals upon detection of the measurement signals with the aid of the measurement device (see Snowbarger, column 9 lines 42-48).

Referring to claim 3, Snowbarger teaches determining movement parameters from the detected time resolved path signals (see Snowbarger, column 9 lines 52-62).

Referring to claim 4, Snowbarger teaches executing a leakage measurement upon detection of the measurement signals, aided by the measurement device (see Snowbarger, column 4 lines 23-27).

Referring to claim 5, Snowbarger teaches electronically logging of a course of the test cycle and electronically storing the course in a storage device (see Snowbarger, column 3 line 51-62).

Referring to claim 6, Snowbarger teaches activating the test cycle for the process control device utilizing a remote control (see Snowbarger, column 4 lines 50-67).

Referring to claim 7, Snowbarger teaches partially venting the actuator, which is a pneumatic actuator, to partially move the control element as a reaction to the controlling by the control unit (see Snowbarger, column 4 lines 35-49).

Referring to claim 9, Snowbarger teaches a device to test the operating safety of a process control device designed to close or open a pipe of a process system in the event of an incident (see Snowbarger, column 3 lines 25-35 and column 4 lines 1-6), comprising:

a process valve (see Snowbarger, column 3 lines 25-35 and Figure 1 "emergency shutdown valve 12");

a pneumatic actuator for driving the process valve (see Snowbarger, column 4 lines 6-11), the pneumatic actuator (see Snowbarger, Figure 1 "valve actuator 17") having a pneumatic input (see Snowbarger, Figure 1 "pneumatic line 19");

a position controller in a safety circuit (see Snowbarger, column 4 lines 35-36);

a solenoid valve (see Snowbarger, Figure 1 “solenoid valve 16”) comprising a pneumatic output that is directly coupled to the pneumatic input (see Snowbarger, Figure 1 “pneumatic line 19”) of the pneumatic actuator (see Snowbarger, Figure 1 “valve actuator 17”), and an electrical input that is connected with the position controller (i.e. emergency shutdown controller 44) for exchange of control signals (see Snowbarger, Figure 1 “two wire line 22”), such that the pneumatic actuator can be operated via the solenoid valve to drive the process valve from an initial condition to a final condition in the event of incident (see Snowbarger, column 4 lines 1-11);

a measurement device connected to the position controller configured to acquire measurement signals that indicated a movement of the process valve from the initial condition (see Snowbarger, Figure 1 “sensors 15”) (n.b. the measurement device (i.e. sensors 15) is connected to the position controller (i.e. emergency shutdown controller 44) via DVC 14);

the position controller (i.e. emergency shutdown controller 44) comprising a control signal generator configured to generate a control signal (see Snowbarger, column 4 lines 12-14) for a partial movement of the process valve in the course of a test cycle for the process control device (see Snowbarger, column 4 lines 1-11), and to transmit the control signal via a signal connection from the position controller to the solenoid valve via its electrical input (see Snowbarger, column 4 lines 1-23).

Referring to claim 10, Snowbarger teaches that the control unit and the position controller are redundantly coupled to the actuator to operate the actuator (see Snowbarger, column 4 lines 11-49 and Figure 1).

Referring to claim 15, Snowbarger teaches a suppression device to suppress the generation of the control signal for the partial movement of the actuator in the course of the test cycle (see Snowbarger, column 6 lines 41-43).

Referring to claim 16, Snowbarger teaches a storage device configured to store electronic information concerning the test cycle (see Snowbarger, column 3 lines 51-62).

Referring to claim 17, Snowbarger teaches an evaluation device configured to automatically evaluate the measurement signals that indicate a movement of the control element from the initial condition (see Snowbarger, column 4 lines 25-27).

Referring to claim 18, Snowbarger teaches that the detecting is performed as a direct detecting of the process valve and the measurement signals are directly taken from the process valve (see Snowbarger, column 3 lines 40-43).

Referring to claim 19, Snowbarger teaches that the measurement device is located between the process valve and the actuator (see Snowbarger, Figure 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snowbarger et al. (U.S. Patent No. 7,079,021) (hereinafter Snowbarger) in view of Rosenberg (U.S. Patent No. 6,300,937).

Referring to claim 13, Snowbarger teaches all the features of the claimed invention except that the measurement device comprises a motion sensor configured to detect the partial movement of the control element.

Rosenberg teaches that the measurement device comprises a motion sensor configured to detect the partial movement of the control element (see Rosenberg, column 8 line 66 – column 9 line 3).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Snowbarger to include the teachings of Rosenberg, because having a motion sensor in the feedback loop would have allowed the skilled artisan to detect any deliberate or unwanted motion for normal control or alarm generation, respectively.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snowbarger et al. (U.S. Patent No. 7,079,021) (hereinafter Snowbarger) in view of Scheideler (U.S. PG-Pub No. US2003/0188583).

Referring to claim 14, Snowbarger teaches all the features of the claimed invention except that the measurement device comprises a motion sensor configured to detect the partial movement of the control element.

Scheideler teaches that the measurement device comprises a motion sensor configured to detect the partial movement of the control element (see Scheideler, page 4 [0088]).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Snowbarger to include the teachings of Scheideler, because having a sound sensor in the feedback loop would have allowed the skilled artisan to detect any deliberate or unwanted vibration for normal control or alarm generation, respectively.

5. Claims 22, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Snowbarger et al. (U.S. Patent No. 7,079,021) (hereinafter Snowbarger) in view of Konieczynski et al. (U.S. Patent No. 5,271,569) (hereinafter Konieczynski).

Referring to claim 22, Snowbarger teaches generating the test control signal by the position controller so that the pneumatic output of the solenoid valve directs the pneumatic actuator to partially move the control element (see Snowbarger, column 4 lines 1-11), but does not teach switching a switch device connected to the solenoid

valve and thereby interrupting a control signal of a signal line provided to the solenoid valve with a test control signal to the solenoid valve.

Konieczynski teaches switching a switch device connected to the solenoid valve and thereby interrupting a control signal of a signal line provided to the solenoid valve with a test control signal to the solenoid valve (see Konieczynski, column 14 lines 1-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Snowbarger to include the teachings of Konieczynski because having a switching device to interrupt a control signal would have allowed the skilled artisan to stop control of the solenoid valve, such as in the event of a failure, to prevent further damage to the valve.

Referring to claim 23, Snowbarger teaches detecting the partial movement of the control element with the measurement device to determine if the position controller, the solenoid valve, the pneumatic actuator and the control element have properly moved in response to the test control signal (see Snowbarger, column 3 lines 36-43 and Figure 1 "sensors 15").

Referring to claim 25, Snowbarger teaches a test control signal generator of the position controller that provides the test control signal to the solenoid valve via a signal connection so that the pneumatic output of the control unit directs the pneumatic actuator to partially move the control element (see Snowbarger, column 4 lines 1-11), but does not teach a switch device connected to the solenoid valve that interrupts a

control signal of a signal line provided to the solenoid valve to provide a test control signal to the solenoid valve.

Konieczynski teaches a switch device connected to the solenoid valve that interrupts a control signal of a signal line provided to the solenoid valve to provide a test control signal to the solenoid valve (see Konieczynski, column 14 lines 1-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Snowbarger to include the teachings of Konieczynski because having a switching device to interrupt a control signal would have allowed the skilled artisan to stop control of the solenoid valve, such as in the event of a failure, to prevent further damage to the valve.

Allowable Subject Matter

6. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed 26 June 2007 have been fully considered but they are not persuasive.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary C. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday to Friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mary Catherine Baran
16 August 2007

CAROL S.W. TSAI
PRIMARY EXAMINER